

p-CREB-1 (Ser 133): sc-7978

BACKGROUND

Eukaryotic gene transcription is regulated by sequence-specific transcription factors that bind modular CIS acting promoter and enhancer elements. The ATF/CREB transcription factor family binds the palindromic cAMP response element (CRE) octanucleotide TGACGTCA. The ATF/CREB family includes CREB-1, CREB-2 (also designated ATF-4), ATF-1, ATF-2 and ATF-3. This family of proteins contain highly divergent N-terminal domains, but share a C-terminal leucine zipper for dimerization and DNA binding. Although CREB can bind to DNA in an unphosphorylated state, it cannot activate transcription. Phosphorylation of CREB on Ser 133 by protein kinase A facilitates its interaction with the CREB-binding protein (CBP) and activates the basal transcription complex. CREB functions in neoglucogenesis through interactions with the nuclear coactivator PGC-1. CREB may play a role in the pathogenesis of type II diabetes and dilated cardiomyopathy. The gene encoding CREB-1 maps to human chromosome 2q33.3.

SOURCE

p-CREB-1 (Ser 133) is available as either goat (sc-7978) or rabbit (sc-7978-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Ser 133 phosphorylated CREB-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7978 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-7978 X, 200 µg/0.1 ml.

APPLICATIONS

p-CREB-1 (Ser 133) is recommended for detection of Ser 133 phosphorylated CREB-1 p43 and correspondingly phosphorylated CREM-1 and ATF-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-CREB-1 (Ser 133) is also recommended for detection of correspondingly phosphorylated CREB-1 p43, CREM-1 and ATF-1 in additional species, including equine, canine, bovine, porcine and avian.

p-CREB-1 (Ser 133) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of p-CREB-1: 43 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or SK-N-MC cell lysate: sc-2237.

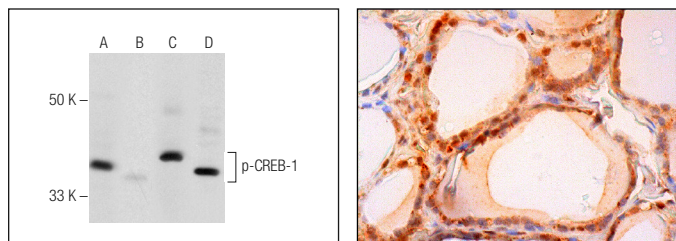
RESEARCH USE

For research use only, not for use in diagnostic procedures.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



Western blot analysis of CREB-1 phosphorylation in untreated (A, C) and lambda protein phosphatase treated (B, D) SK-N-MC whole cell lysates. Antibodies tested include p-CREB-1 (Ser 133)-R: sc-7978-R (A, B) and CREB-1 (C-21): sc-186 (C, D).

p-CREB-1 (Ser 133): sc-7978. Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing nuclear and cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Napoli, C., et al. 2000. Mildly oxidized low density lipoprotein activates multiple apoptotic signaling pathways in human coronary cells. *FASEB J.* 14: 1996-2007.
- Cook, P.R., et al. 2011. HTLV-1 HBZ protein deregulates interactions between cellular factors and the KIX domain of p300/CBP. *J. Mol. Biol.* 409: 384-398.
- Pacelli, C., et al. 2011. Mitochondrial defect and PGC-1α dysfunction in parkin-associated familial Parkinson's disease. *Biochim. Biophys. Acta* 1812: 1041-53.
- Tran, T.T., et al. 2011. Chronic psychosocial stress accelerates impairment of long-term memory and late-phase long-term potentiation in an at-risk model of Alzheimer's disease. *Hippocampus* 21: 724-732.
- Um, H.S., et al. 2011. Treadmill exercise represses neuronal cell death in an aged transgenic mouse model of Alzheimer's disease. *Neurosci. Res.* 69: 161-173.
- Hallenborg, P., et al. 2012. Mdm2 controls CREB-dependent transactivation and initiation of adipocyte differentiation. *Cell Death Differ.* 19: 1381-1389.
- Jang, J.Y., et al. 2012. Aqueous fraction from *Cuscuta japonica* seed suppresses melanin synthesis through inhibition of the p38 mitogen-activated protein kinase signaling pathway in B16F10 cells. *J. Ethnopharmacol.* 141: 338-344.

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Try **p-CREB-1 (10E9): sc-81486**, our highly recommended monoclonal alternative to p-CREB-1 (Ser 133).